MA 152   Exam 3   Spring 2000

Name: _____

Student ID: _____

Instructor: _____

Class Hour: _____

INSTRUCTIONS:

(1) There is no credit for guessing. You must show your work to receive credit!

(2) Please fill in all the above information and write your name on the top of each of the 4 exam pages.

(3) The point value on each problem appears to the left of the problem.

(4) You must show sufficient work to justify all answers. Correct answers with inconsistent work may not be given credit.

(5) No partial credit will be given on problems 1-3. Partial credit may be obtained on problems 4-11 provided sufficient work is shown.

(6) Circle the letter of the correct answer in problems 1-3, and write the answers to problems 4-11 in the space provided.

(7) No books or paper are allowed. Calculators may be used where appropriate.

(8) The exam is self-explanatory. Please do not ask the instructor to interpret any of the exam questions.

Page	Points	Max Possible
1		24
2		26
3		28
4		22
Total		100

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Circle your answer to problems 1-3. You must show work to receive credit.

(8pts.)   1.   Find the slope between $(-3, 9)$ and $(4, 7)$.

     A. -2

     B. $-\dfrac{2}{7}$

     C. 16

     D. $-\dfrac{1}{2}$

     E.   None of these

(8 pts.)   2.   Simplify completely.

$$2x^2 y^{\frac{3}{2}} \quad 5x^{\frac{1}{2}} y^2$$

     A. $40x^{\frac{13}{2}} y^{\frac{13}{2}}$

     B. $30x^{\frac{11}{2}} y^{\frac{13}{2}}$

     C. $40x^3 y^9$

     D. $30x^3 y^9$

     E. $40x^{\frac{11}{2}} y^{\frac{13}{2}}$

(8 pts.)   3.   Write $|4x + 5| \quad 3$ without the absolute value signs.

     A. $x \quad -\dfrac{1}{2}$

     B. $x \quad -2$ or $x \quad -\dfrac{1}{2}$

     C. $-2 \quad x \quad -\dfrac{1}{2}$

     D. $-2 \quad x \quad -\dfrac{1}{2}$

     E. $-2 \quad x \quad -\dfrac{1}{2}$

1

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Place your answers in the spaces provided. You must show work to receive credit.

(10 pts.)   4.   Find the point(s) of intersection for $y = -4x - 8$ and $y = 2x^2 + 12x + 16$.
            Give your answer(s) as ordered pairs.

(8 pts.)   5.   Solve $\sqrt{x + 7} = 4$ for x.

x =

(8 pts.)   6.   Simplify $\sqrt{50} + \sqrt{18} - \sqrt{32}$ completely.

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(10 pts.)   7.   I varies jointly as x and y and inversely as the square root of d. Find the explicit formula if I = 54 when x = 2, y = 3 and d = 9

$$I = \boxed{}$$

(8 pts.)   8.   Let $f(x) = x^2 - 3x + 1$ and $g(x) = 4x - 7$

Find $(f \circ g)(3)$.

$$(f \circ g)(3) = \boxed{}$$

(10 pts.)   9.   Find the equation of the circle, in standard form, with center (4, − 9) that passes through the point (3, 2).

$$\boxed{}$$

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Place your answers in the spaces provided. You must show work to receive credit.

(10pts.)   10.   Owen is paying $18000 for a speedboat that he knows will depreciate linearly to a value of $600 after 12 years.

       (7 pts.)   a)   Write a formula for V, it value t years after purchase.

$$V(t) = \boxed{}$$

       (3 pts.)   b)   What will be the boat's value 6 years after its purchase?

$$\text{Value after 6 years} = \boxed{}$$

(12 pts.)   11.   Tim invests $150 in an account earning 9% interest compounded quarterly for 3 years. At the end of the three years, he invests the amount accumulated in an account earning 7% compounded monthly for 2 years. How much will he have accumulated after 5 years? Round your answer to the nearest cent.

Hint: $A = P \left(1 + \dfrac{r}{m} \right)^{tm}$

$$\text{Amount} = \boxed{}$$